

# 2010

## Catawba County Project Portfolio



Technology, GIS, 911

12/20/2010

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## What Does Value Mean to You?

This sounds like a simple question. What does value mean to you? And it may be simple for you to answer. But when we asked several groups this question, we found that there were about as many answers as there were people answering. We also found that the answers varied depending on whether you were looking at it from a citizen's standpoint or from a government standpoint. It even varied depending on the department being represented.

While the definitions varied, there was a lot of commonality. People were quick to convey that value is not just monetary. The intrinsic value or the underlying perception of the true value included all aspects of the organization in terms of both tangible and intangible factors.

As we evaluate the technology projects we have completed over the past five years, these group discussions play a critical role in understanding the value of each project. Through consolidation of definitions, value was summarized to these seven areas: Savings, Efficiency, Relationship, Citizen, Expectations, Risk, and Strategic.

Savings related to all of the ways to save money like reducing personnel, holding growth, time savings, or just the biggest bang for the buck. Efficiency was defined by efficient processes, time savings, process improvement, improved services and the ability to match needs with resources. Relationship value represents the relationships with the public and the internal relationships that are extremely important for any organization. Citizen value includes increased levels of service, but it goes well beyond that to include removal of constraints, providing useful information and making a positive change in behavior, attitude and well being.

Expectation may seem like a strange value, but it has become part of the delivery of services. People expect to have choices based on their personal preferences, they expect more online services, they expect accessibility, and simplification. They also expect security in their dealing with the government which brings us to the next value, risk. Reducing risk is of high value today. Data security, integrity and the preservation of data and institutional knowledge are all part of the risk value assigned to projects.

Strategic value is the last of the seven. Sometimes the value is in the priority of a service that is needed or desired. Sometimes value is generated by an opportunity that would be lost if not acted upon. Or maybe it is just part of the business outcomes.

Below is a summary of the terms from our value discussions. They are broken into the seven summary areas. Perhaps your definition of value falls into one of the areas, or maybe you have other definitions. The important thing to realize is that we may all look at things a little differently; however, when it comes to providing valuable services to the citizen we must review every project for its contribution to the County's overall well being.

### **Money Savings (Savings)**

- Reduce Personnel/Hold the growth
- Time Savings
- Cost in relationship to alternatives
- Biggest bang for your buck
- Cost savings- resources, personnel
- Limited resources

**Better Efficiency (Efficiency)**

- Efficient
- Time Savings
- Process Improvement
- Ability to match resources to need
- Improved Service Delivery
- Improved Communications

**Public Relation Value (Relationship)**

- Public perception
- Human Resources Support
- Relationships- human and tangible

**Better Service to the Citizen (Citizen)**

- Increased Level of Service
- Removal of Constraints
- Positive change in behavior, attitude or well being
- Useful Information

**Expectations (Expectation)**

- Personal preference
- Desirable
- Choice
- Ability to do more
- Anything that increases the quality of life
- Access /Accessible
- Meeting expectations
- Ease of use/transaction/interaction

**Mitigates risk (Risk)**

- Reducing risks
- Data Security and Integrity
- Increased Security
- Institutional Knowledge

**Strategically important (Strategic)**

- Priority
- Needed/desired
- Opportunity Lost/Cost
- Business Outcomes

## Unified Electronic Payment Processing System

Catawba County had limited electronic payment options for the public. Citizens could pay their tax bill online but could not use credit or debit cards at the counter. The Register of Deeds accepted debit cards and Permitting accepted credit cards over the counter.

To give the public more payment options and to provide a consistent approach across the County, department heads requested a payment system that could be used with



all departments over the counter and online and provide a consolidated bill and payment method for citizens. Research for the County's website revealed that online payments were a high priority.

A vendor was chosen to provide services. To date, the Tax Department, Register of Deeds, Permit Center, Public Health, Libraries, Animal Control, GIS offer over the counter payment. The Tax Department and Permit Center have the option of online payments available and we are working towards this feature for Library fees and fines.

### Savings



**Efficiency**



**Relationship**



**Citizen**



**Expectation**



**Risk**

**Strategic**

Online payments for consolidated bills were made available at the end of 2008. With this, the public can go online and make one payment for all of their county obligations: taxes, permitting, landfill and sludge waste fees in one location.

2008-2009 Fiscal Year-

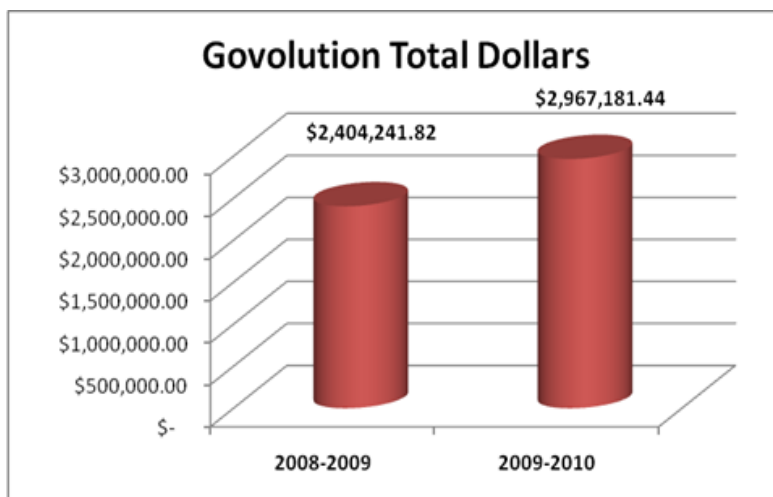
Total Transactions: 13910

Total Dollars: \$2,404,241.82

2009-2010 Fiscal Year-

Total Transactions: 18262

Total Dollars: \$2,967,181.44



### Value Added:

- Citizen Expectations
- Improved collections at Library & others (paper, phone calls, etc...)
- Removed constraints on citizens
- Provides better tracking of payments for customers and County
- Ease of use, efficiency
- Risk Mitigation
- Public Relations

## Permit Center Application Replacement

In 2008, it was determined that the Tidemark system used for permitting and inspections was over 10 years old and could not provide the services that are expected by the building community. The software could not be modified and was not being supported by the vendor. Funding was approved to replace the system and an RFP was released. The project team was chosen and three vendors were selected. The team held face to face interviews, visited other counties using the three prospective vendors and reviewed presentations and software demos. A recommendation was made for Energov Solutions by the project team to the board of commissioners.

The software implementation started on March 2, 2009 and a short 7 months later, on October 7, 2009, Catawba County and City of Hickory began using the new system. The Energov system tracks everything related to the building process from planning and permitting to final inspection. The departments that were affected by this project were Building Services, Code Enforcement, Environmental Health, GIS, Planning and Zoning, Tax, Finance and ES-Fire Marshall's Office. The system is totally integrated with PeopleSoft billing, CDP (used for EH inspections), Laserfiche, GIS and Govolution (Debit/Credit and online payment software). Phase II (implement Energov throughout the remaining 7 jurisdictions) and Phase III (Electronic Plan Review) are in progress and expected to be complete by March 2011.



### Known Impacts:

- Since the system was put in production, in October 2009, we have processed ~10,000 permits/cases.
- Progress and inspection notes can be viewed online and there is tight integration with the County GIS.
- allowed seamless integration with multiple internal departments and City of Hickory
- online access for contractors to view up-to-date info, request inspections and make payments online
- gives Mobile inspectors more info than legacy system out in the field
- gives Mobile inspectors more control and up-to-date data in the field
- allowed code enforcement department to expand case tracking and case follow up abilities
- saved county \$7800 year to dissolve CDP contract for Well and Septic, EH handling Well and Septic within the Energov software
- since go-live October 2009-2209 inspections requested via IVR and CAP, previous average with IVR was 720 year in legacy system
- provided online portal for contractors-145 contractors have created accounts in CAP

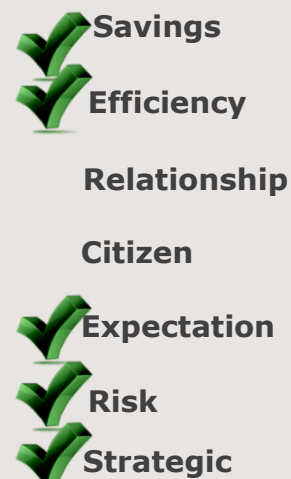
### **Value Added:**

- **Efficiency** (reduced staff, included collaborative effort with local agencies, Cities, more online features, etc)
- **Risk mitigation**-old product not supported; eliminated multiple 3<sup>rd</sup> party software contracts,
- **Citizen expectations**

## PeopleSoft Enterprise Initiative

The County has made a significant investment in PeopleSoft. In order to maximize that investment, the County is moving appropriate business processes and functions to PeopleSoft. Projects to date revolve around Human Resources and Finance but this initiative expands the use to broader categories including the Critical Care Special Needs Database Project. Since this project is constantly being redefined, no completion date is set.

**Online Expense Reporting:** An online expense system has been developed within the PeopleSoft application. Employees can go online and submit expenses like mileage, conference costs, travel and others. Once expenses are submitted, they are automatically routed to supervisors for approval and then to Finance for payment. Payment is electronic and is included as a separate item on the employees next pay check. This eliminates the paper check in the expense reimbursement process and allows for a completely automated process. Cost savings are realized by not having to print paper checks and since the reimbursement is included in the regular payroll check, bank charges for multiple transactions are reduced. On the employee side, the process is simpler and they are not longer required to go to the bank to cash expense checks.



### Value Added:

- **Efficiency & Reduced Workload** – expense information is recorded one time by the employee rather than recorded, printed, signed by employee then sent to Finance where it was keyed again; expense checks are not printed, the amount is added to employee direct deposit pay checks.
- **Tracking** – employees and approvers can see all expense reimbursement information from a single source.
- **Green** – mileage reimbursement forms and expense checks are no longer printed.
- **Expectation** – the public and employees rely on the County to provide efficient business processes

**Maintenance Work Order System:** The Maintenance division of the Finance department wanted to automate the work order process and allow requests to be submitted and tracked electronically. The current help desk module of PeopleSoft was modified to accommodate this request. Integration with Blackberry devices allow maintenance employees to access and update the information more easily and from anywhere in the field. The system was fully implemented July 2008.

### Value Added:

- **Efficiency** – electronic records are more easily accessed by all departments and can be accessed remotely via mobile devices
- **Better Tracking** – electronic files are much easier to produce statistics and reporting
- **Green** – paperless and less gas
- **Easily shared with departments** – status of work orders is readily available to departments

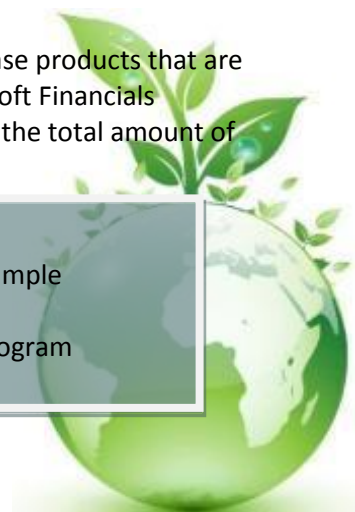
**Tracking of “Green” Purchases:** It is the practice of Catawba County to purchase products that are recycled or from renewable sources when possible. This project was to modify PeopleSoft Financials applications to capture selected fields when purchasing “green” products and to report the total amount of “green” products purchased.

**Value Added:**

**Expectations** – the County promotes recycling for the public and is helping to set an example

**Green** – this encourages vendors to provide environmentally friendly product choices

**Useful information** – provides ability to demonstrate the level of participation in the program



**E-Payables:** E-Payables allow vendors that Catawba County owes money faster access to their payment after approval, etc. With ACH there is a waiting period, with the card less E-Payables system there is no wait time.

**Value Added:**

**Expectations** – modern business practices dictate electronic payment options

**Efficiency** – Less time is required to process electronic transactions versus printed checks;  
no postage fees

**Green** – reduces electricity and paper required to print checks

**Procurement Card:** The procurement card module in PeopleSoft allows for faster reconciliation of the credit charges. The charges are imported and manipulated.

**Value Added:**

**Expectations** – Current business practices allow online management of procurement card purchases.

**Efficiency** – Many hours are saved by having the software complete and verify calculations.

## Special Needs/ Critical Care Database

In times of emergency, some citizens require special assistance or care to maintain health and safety. For example, people with oxygen, wheelchairs, insulin, etc. would need to be sure these things were available if they had to be moved to an emergency shelter for any reason. Multiple departments have been maintaining either a special needs database or a critical care database with this information for many years so County emergency staff could provide medical care and



safety for these citizens. There were six separate department databases with essentially the same data in each one. With so many points of entry, consistent reliable data was almost impossible. In this project, one database was created so any of the departments can add or modify the data and share the updated information. This project is built on the “enter once, use many concept”. To date, Emergency Services, three divisions of Social Services, Communication Center and the Sheriff’s department are sharing resources to track the data. During an emergency – either a 911 calls or evacuation – staff is automatically alerted as to which citizens have special needs and 911 addresses with special needs are displayed on a map to facilitate most efficient routing if evacuation is required.



**Savings**



**Efficiency**

**Relationship**



**Citizen**



**Expectation**



**Risk**



**Strategic**

### Value Added:

- **Safety** – More current, consolidated data helps assure safety for citizens
- **Risk Mitigation** – emergency personnel have advance notice of special requirements and are better prepared
- **Expectations** – citizens depend on emergency personnel to keep them safe
- **Efficiencies** – (1) the addresses with special needs are displayed on a map to facilitate most efficient routing if evacuation is required; (2) data is entered once rather than multiple times
- **Useful Information** – Planning and emergency responses are greatly enhanced with this consolidated approach to tracking the information

## Tracking for School Nurse Program

Catawba County Public Health department provides the services of registered nurses for school children throughout the County. Services are provided at 41 Catawba County schools by 23 nurses who are equipped with mobile computers. This solution provides a means to accommodate statistical and generic information. The information collected is consolidated into one report that is presented to various boards. The individual student health records are kept secure in a separate application. A custom PeopleSoft application was developed to track summary information. Each nurse collects data as services are provided and records the information in a web-based application. Periodic reports are generated and sent to appropriate governing and funding groups. The nurses use the system to collect and maintain statistical information only. This drastically reduced reporting time for funding that is required by each school nurse.



### Value Added:

- **Efficiency** - reporting time is greatly reduced by having a system to sort and calculate summary information
- **Useful Information** – funding for the school nurse program is provided by various agencies that require the summary information
- **Risk Mitigation** - the data collected provides information that helps target health programs to reduce health risks

## Mental Health Partners PeopleSoft Instance

On April 1, 2008 the decision was made to proceed with a new installation of PeopleSoft and a project team was created. The project team decided that the new installation for Mental Health Partners should use PeopleSoft 9.0 and create a new “Company” in the existing PeopleSoft HRMS database. The project team began work immediately. For the financials system, the team originally implemented General Ledger, Payables and Commitment Control. Shortly into the project the scope was modified to include Purchasing. The methodologies were similar to how the County had kept books with minor changes. These included approval rules and multiple bank accounts. The Financials system actually went live early and under budget. For the HRMS system, a new “Company” was created within the existing HRMS installation. The County had only one Company previously – this required all reports to be modified. The existing County payroll staff continues to produce the payroll, but now run a payroll for each “company”. All time periods, rules, and benefits remained the same. The County completed the first payroll (which because of the time period the Mental Health Partners employees actually go






a check from each “company”) was completed July 25, 2008 for the time period 06/28/2008-07/11/2008. The project team completed a new installation of Financials and made significant changes to business practices in a 3 month period. The County considered this a very successful project.

**Value Added:**

- **Collaboration** – allows Mental Health Partners to provide better service to customers/citizens

## Microsoft Upgrades

**SharePoint Implementation:** SharePoint is a collaboration and document storage tool. It provides work and collaboration spaces for departments to post, write, and discuss products as they move through the process from draft to final. SharePoint is an extension of our existing Microsoft Office platform. The main purpose for using SharePoint is to provide a place for collaboration and at the same time have a common storage area for institutional knowledge. Previously documents were stored in folders and subfolders by department on network drives. When an employee left it was sometimes difficult to find the latest versions of documents. SharePoint allows users to store documents in a searchable format and easily allow a secure platform for sharing, editing, and posting. It also tracks versions as a document moves through the creation process. In addition, SharePoint provides for efficient document storage by providing one location and one copy of a document to be stored and shared by many. This eliminates the requirement for everyone who needs access to a document to store it in individual folders on networks drives. As a result, less storage space is needed and less backup time required. Currently, SharePoint has been setup to provide areas for each department, project management, and the Intranet has been moved to it.

**Savings**  
 **Efficiency**  
**Relationship**  
**Citizen**  
**Expectation**  
 **Risk**  
 **Strategic**

**Value Added:**

- **Institutional Knowledge**- provides a central location for storing documents
- **Collaboration** – allows sharing of documents, maps, photos and enhances communication
- **Risk Mitigation** – version control and single source for critical documents
- **Efficiency** - search, versions, sharing information

**Office 2007 Upgrade:** Replace Current Standard Desktop Software with the latest version. The current Microsoft Office applications have become incompatible with other agencies. The versions currently used were released from 1997 to 2000 and are outdated. The new release provides additional functionality and compatibility for County business processes. This project began spring 2007 and was completed by August 2007.

**Value Added:**

- **Efficiency** – Provided us the same version of software across the County with the advantage of new features.
- **Compatibility** - We are able to open the new XML formats for other agencies and businesses.
- **Removal of Constraints** – the office upgrade removed the compatibility issues with other agencies.
- **Expectations – present and future** – It is expected of us to be able to read and deliver up to date data formats to other agencies and businesses.

**Savings**



**Efficiency**

**Relationship**



**Citizen**



**Expectation**

**Risk**



**Strategic**




**Computer Replacement:** The County maintains a goal to replace 20 percent of the desktop and notebook computers, excluding DHR agencies, yearly. This maintains compatibility with other agencies and software standards imposed by vendors. The county has met the 20% goal for the last two years.

**Value Added:**


- **Efficiency** – We replace computer that are over 5 years old to reduce downtime and speed up processors which allows us to run updated software.
- **Compatibility** – Computer software has to be upgraded to maintain vendor support and as new features are added more hardware resources are required.
- **Removal of Constraints** – By maintain a minimum level of hardware we are able to run the latest versions of in all departments as needed.
- **Expectations** – We are expected to be able to send and receive current versions of application data with other agencies and internal. This would not be possible without providing minimum levels of hardware.


**Savings**


 **Efficiency**

**Relationship**

**Citizen**

 **Expectation**

 **Risk**

 **Strategic**

**School Surveillance Software:** Several schools throughout Catawba County have surveillance systems that are accessible via the Internet. The Sheriff's department could more fully respond to incidents at schools if they had access to the surveillance systems. This project is designed to give video access to schools that have the required technology installed. A grant was secured to expand the functionality of the existing wireless infrastructure. The grant allows installing wireless access points at schools, improving wireless access in the STAR Team vehicle and improving the camera systems with partnered school systems. Equipment for the project was installed during Spring 2009 and the system is now fully operational.

 **Savings**

 **Efficiency**

**Relationship**

**Citizen**

 **Expectation**

 **Risk**

 **Strategic**

**Value Added:**

- **Efficiency**-utilized existing wireless infrastructure
- **Removed Constraints**-allows public safety personnel to get a view of inside school from outside
- **Collaboration**-gives access to two separate school systems and Catawba County Sherriff's Department
- **Expectations**-used to keep students and administration safe

## H1N1 Grant Fund Digital Signage

H1N1 grant funds were received to educate the public concerning H1N1 prevention and care. The funds are being used to implement electronic/digital signage in clinics and other targeted areas where clients will have the opportunity to learn more about this and other timely health concerns. Currently, eight digital signs have been placed at Public Health and two at the Department of Social Services. In the near future, one digital sign will be placed at the main library branch.

### Value Added:

- **Useful Information**-displays critical information to the public at several locations
- **Public Relations**-allows Public Health to send marketing and health announcements out electronically
- **Efficiency**-saves printing of posters for bulletin boards, information can be added and updated on a computer at a central location

### Savings



### Efficiency



### Relationship



### Citizen

### Expectation

### Risk

### Strategic

## Phone Tree Call System

Added a "Phone Tree" system at Social Services to automate calling clients to remind them of appointments. Family NET uses the system to make an average of 50 calls per day. Staff time for reminder calls was reduced from approximately 2 ½ hours per day to the 5 minutes per day to load the call list to the network. Transportation uses the system to make approximately 40 to 50 calls per day. This has reduced the number of "no shows" by a noticeable amount. Reimbursement is based upon number of successful pickups so this has a positive impact on revenue as well. At this rate, the maximum return on investment would be less than 3 months.  $(\$1,819 \text{ (system cost)})/(\$14.00 \text{ (per hour pay of callers)})/2.5 \text{ hours per day}$ .



### Savings



### Efficiency

### Relationship

### Citizen

### Expectation

### Risk

### Strategic

### Value Added:

- **Efficiency**- reduced staff time to call by 2 ½ hours a day
- **Money**-reduced the number of no shows for transportation-DSS receives reimbursements based on number of successful pick-ups

## 800 MHz VIPER System

This project is to enhance our ability to talk to Public Safety officials in our county and surrounding counties. We have coverage issues in the county with the current VHF system that must be addressed. Viper is already established here and the build out of tower sites is taking place in our area. By partnering with the North Carolina State Highway Patrol, Catawba County can upgrade its communications system using the infrastructure provided by the state. In partnership with the fire and rescue departments in the county and EMS we received a \$803,964.00 grant to purchase radios for the departments. These radios have been ordered and delivered. The Sheriff's Department also received a grant for \$254,000 with a 50% match for radios. These radios have been ordered and delivered. Target Date: December 31, 2010



### Value Added:

- **Risk Mitigation** – 800 Mhz has more coverage in the county and interoperability with the State
- **Money**- Partnering with the State has reduced the cost and grant money has brought close to 1 million into the county.
- **Efficiency**- Shared resources
- **Collaboration** – All of the fire departments and rescue squads worked together to develop plan and apply for grant.
- **Public Relations Value**- Working with leaders and departments
- **Expectation** – Citizens expect a system that works.
- **Removal of Constraints**-EMS and law enforcement



## VisionMobile and AVL for Emergency Vehicles

Catawba County has been using VisionAir products since March 1998. Catawba County is currently utilizing VisionAIR Computer Aided Dispatch, Records Management System, Field Based Reporting, Fire Service Management, GeoLynx Mapping, and the Jail Management System.

VisionAIR mobile enhances our current investment by enabling the flow of information to and from units in the field. In addition to data and reports, it incorporates GPS tracking with Automated Vehicle Locating(AVL). Units can then be dispatched based on the closest available unit as opposed to the current base dispatched method. Once dispatched, call information will be sent to the unit's onboard computer with address and mapping directions for the incident.

VisionMOBILE is designed to fully enhance the VisionAIR Public Safety Suite that Catawba County currently uses and transform the Catawba County's Public Safety division into a mobile platform

### Known Benefits and Impacts:

- Increase Officer Safety using GPS and AVL technologies
- Improve Response Times by having visual maps of the nearest Public Safety Units
- Improve Response Times by sending information of dispatched calls to the Public Safety Units
- Delivers valuable information to Public Safety laptops from existing databases (warrants, criminal history, hazmat,etc.)
- Officer's can enter reports directly from the field



### **Value Added:**

- **Risk Mitigation** – By providing current information to the Sherriff, Fire and EMS workers they can minimize life threatening situations for themselves and the public.
- **Efficiency** – On calls where they do not know the location this will give them GPS mapping information. It also allows the 911 center mapping locations so they can direct the vehicles to the destination.
- **Collaboration** – We are currently using this product with Hickory, Newton and Conover to allow them to take advantage of the product also.
- **Public Relations Value** – The saving of only a few seconds in a critical situation could save a life.
- **Expectation** - The public expects us to respond as quickly as possible to emergencies taking advantage of current GPS and mapping tools. These GPS devices are used daily in their lives why would we not also.
- **Useful Information - Risk Mitigation** – By providing current information to the Sherriff, Fire and EMS workers they can minimize life threatening situations for themselves and the public.
- **Removal of Constraints** - With this product they are able to retrieve central database information from the State and County directly. They can complete reports in the field saving travel time and fuel for the officers. This allows for more time in the field on duty.

## Ortho-Photography

Every four years the county contracts to have a fly-over performed to update the orthophotography. A seven county consortium, which Catawba County is a member, participated in a joint fly-over project in March 2009. These photos were received in November and made available to the public in December 2009.

In spring 2010, the State contracted for aerials for the entire state. These are expected to be distributed to the counties in spring 2011. This photography will be made available within a couple of weeks of receiving it from the State. The next anticipated fly-over is scheduled for spring 2013.

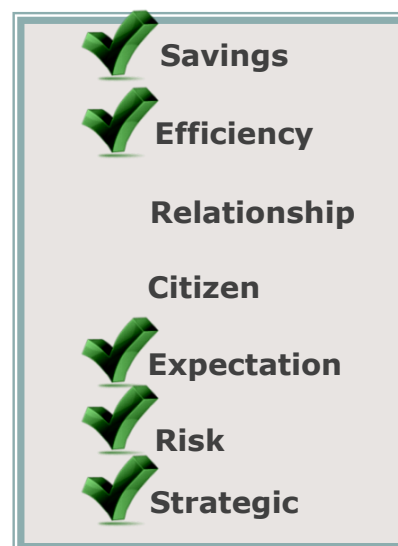


### Value Added:

- **Useful Information**—the public and several departments rely on this photography when performing their business process
- **Collaboration**—joining with our surrounding counties has fostered cooperative working relationships
- **Money Savings**—the collaboration increases buying power, and reduces costs due to the necessary overlap required during the fly-over process.
- **Expectation**—it's desirable, and has become an expectation, to update the photography on a regular schedule
- **Business Outcomes**—updating the photography capitalizes on the County's investment in GIS
- **Efficiency**—current information improves service delivery

## Oblique Photo Project

In addition to the regular orthophotographs, we also contracted for oblique photos, taken in February 2009, to give us side angle views of buildings. Distribution of the oblique photography to various departments began in August 2009. This data immediately began being used by detectives to plan drug busts on structures not previously visible from the road. They've expressed that this information has been an invaluable aid in safely planning these busts. This photography was also used extensively during the initial response and the subsequent investigation of a home explosion on Lake Hickory in October 2009. When responders arrived on the scene, they did not yet know if anyone had been inside during the explosion. They used this photography to determine where the bedrooms in the home were located since the explosion occurred during the early hours of the morning. It was also heavily used by the Tax Appraisers in their evaluation of new property values effective January 2011. This information has also proven very useful to code enforcement personnel in documenting and substantiating code violations.

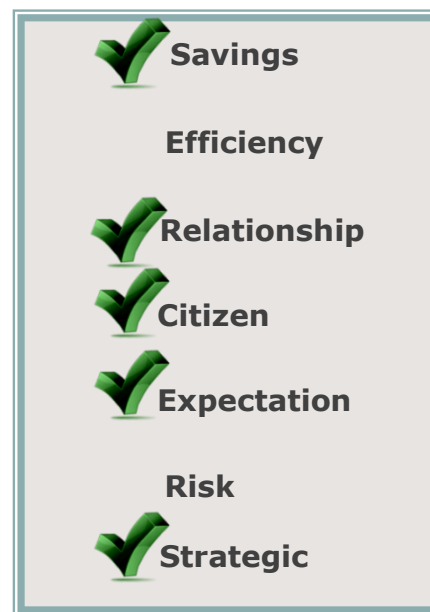


### Value Added:

- **Cost in Relationship to Alternatives**—research and planning can be done remotely rather than using resources to drive to a site for these purposes
- **Ease of Use**—staff has information at their fingertips that wasn't previously accessible
- **Business Outcomes**—to provide information and appropriate tools to staff to perform job functions more efficiently; this information has proven valuable for several departments
- **Process Improvement**—planning events and/or dangerous maneuvers can be planned in the safety of the office environment
- **Risk Mitigation**—providing current photography from several views to the Sherriff, Fire and EMS workers can minimunize life threatening situations for themselves and the public.

## Business Address Layer Project

In an effort to create a more complete dataset of businesses in the area, we obtained a business dataset purchased by the Western Piedmont Council of Governments, a membership list from the Chamber of Commerce, and the fire inspection list from the Fire Marshall's office; compared, and then combined the information. The result is a much more accurate set of data than any of these agencies previously had access to. We believe there will be many uses of this data. One of the uses will simply be to make people aware of the services provided in Catawba County, and hopefully, encourage them to use these resources instead of seeking services elsewhere. We've been in discussions with the EDC, the municipalities, and the Future Economists Group who each believe they will have multiple uses of this information. A website has been set up to search the data, but we haven't made this well known at this point. It will be a huge undertaking to keep the data current. A website allowing editing capabilities has recently been established and we're beginning to publicize this to trusted agencies. The idea being that distribution of the maintenance responsibilities will lessen the burden and provide the most accurate data available.



**Value Added:**

- **Useful Information**—this information will be useful to the public as well as several departments
- **Collaboration**—this information is the collaboration of information from several sources; it will be edited by many; and used by many—both public and private
- **Money Savings**—this information previously had to be purchased. The accuracy level is expected to be greater, yielding more accurate reporting
- **Expectation**—it's desirable by many agencies to have this type of information
- **Business Outcomes**—this information will benefit many

## Creation and Implementation of Joint Address Points Layer with Municipalities

In early 2009, the County began working on an Address Points Layer as a solution to a long existing issue with multiple addresses located on one parcel. Several databases we've used throughout the years have only allowed storing one address per parcel record and applications have been limited to searching for one address. This layer alleviates that issue because each address point can be identified and stored individually. This is particularly useful for mobile home parks, multi-level apartment complexes, and strip malls. The ability to search for and display these multiple addresses will be extremely beneficial to the E-911 Communication Center and to Public Safety Personnel.

In addition, this project is a joint effort with the municipalities. The municipalities, except for Claremont, have their own addressing grid and are responsible for addressing in their jurisdiction. This layer is the first to allow editing capabilities to the municipal addressing staffs and to county addressing staff, each on their designated area, thus eliminating duplication of effort among jurisdictions. This is a substantial benefit to all the jurisdictions; and is an example we believe will be followed in future projects.

**Value Added:**

- **Risk Mitigation**—Having this information readily available can save time looking for addresses by emergency response personnel, possibly saving lives
- **Collaboration**—joint project among jurisdictions benefiting all the citizens of Catawba County
- **Efficiency**—improved service delivery
- **Removal of Constraints**—eliminates one address per parcel restriction resulting in better service to the citizens
- **Useful Information**—information useful to citizens and various agencies
- **Savings**—time savings are incurred by eliminating duplication of effort among jurisdictions
- **Process Improvement**—one file for all jurisdictions to refer to for addressing—a master address layer

## Web enhancements to the GIS website

The Geospatial Information Services website is one of the County's most popular sites, averaging 80,300 hits per day in FY 2009/10. Enhancements were made to the GIS website to allow users to perform searches on specific criteria they choose as it relates to real property. They can choose acreages, property values, sales prices or sales dates and receive detailed reports and maps of their particular search. They have the ability to scale the information to the level of detail that they need.

In addition, the day care lookup site was updated by merging data from Google Maps with County Data which provides a map and information about day cares in Catawba County.

Maps and schedules for early voting were placed on the website during the early voting period. This site was very active during that timeframe allowing citizens to easily access this information.

A Voluntary Agricultural District layer was added to advise purchasers of real estate in Catawba County that these districts have been established to protect and preserve agricultural lands and activities; and further advise that these activities include, but are not limited to pesticide spraying, manure spreading, machinery and truck operation, livestock operation, tree harvesting, sawing, and other common farming activities any time during the day or night.



### Value Added:

- **Efficiency**—web access allows an efficient way to deliver information to our customers; the public and various departments and agencies
- **Public Relation Value**—used on a daily basis by citizens...see webstats below
- **Removal of Constraints**—allows information at user's fingertips that was previously only available on-site
- **Useful Information**—this information is useful to various departments and the public
- **Business Outcomes**—provides greater accessibility to information using fewer resources
- **Money Savings to citizens**—information available without making a trip to government facility
- **Expectation**—desirable to increase access to our customers; both public and private

### GIS Website Statistics

Hits/Day	80,300
Visitors/Day	1,743
Unique Visitors/Month	13,476
Total Hits/Month	2,238,700
Total Parcel Reports Generated/Month	247,361
Total Assessment Reports Generated/Month	20,897

## Tax Mapping Project:

A new tax mapping application was developed and implemented in the Tax Office in June. This was necessary because both the format for storing this type of data and the programming language used by the previous application had changed and were no longer going to be supported by the software vendor. Since real estate tax remains a major source of revenue, it was imperative to upgrade to assure accurate calculation of property for tax assessment. This also ensures that all GIS applications are using the same version of ArcGIS and allows for consistent service and performance across the enterprise. Implementation was completed in June 2010.

### Value Added:

- **Efficiency**—in editing, version control, and integration with other products
- **Risk**—reduced loss of technical support on this valuable dataset
- **Business Outcomes**—opportunity to take advantage of latest technology

**Savings**



**Efficiency**

**Relationship**

**Citizen**

**Expectation**



**Risk**



**Strategic**

## Virtual Technology/SAN Upgrade:

The Disaster Recovery Plan revealed that a redundant data center was needed to provide for recovery in case of an incident in the main technology center. It also revealed that the current server structure and replacement model could not be maintained at current funding levels. A SAN solution was purchased and installed. A redundant SAN was also installed at another location in the county. The virtual environment reduced the county's 70 plus physical servers to 10 physical servers running 100 plus virtual servers. In 2008, an additional 15Tb of storage was added to both sites to address the growing demands for storage space. Besides providing the security of a redundant system, replacement and operating cost were reduced. Completed Aug 2007, virtual technology and the SAN will save the County over \$900,000 in four years.



**Savings**



**Efficiency**

**Relationship**

**Citizen**



**Expectation**



**Risk**



**Strategic**

### Value Added:

- **Efficiencies - Money Savings** – To continue to purchase physical server would have cost us in terms of physical space, Power, cooling, and the actual increased cost of individual servers.
- **Green** – We only have to provide power to 14 physical blades instead of 150 physical servers saving power and cooling electricity.
- **Risk Mitigation** – The virtualization of servers allowed us the ability to replicate the servers to Public Health for disaster recovery.

- **Collaboration** – we are currently using the technology to support the Public Safety applications, Permit and inspections, GIS and Tax information with the Cities.
- **Removal of Constraints** – The ability to create a new virtual server for the applications to migrate to during upgrades allows for offline testing and reduced downtime.
- **Data security and Integrity** - By duplicating servers at a disaster site we are in a position to recover in a matter of hours from a disaster as opposed to weeks to replace physical boxes and restore data from backups.

## Infrastructure Upgrade:

This project built redundant paths for data and eliminated single points of failure in the system. Part one consists of a wireless bridge from the Social Services/Public Health complexes to the Government Center. This built a ring into the infrastructure thus eliminating the single fiber path. Part two was to install a secondary fiber run from the Government Center to the Justice Center.

### Value Added:

- This reduced the risk that if critical trunk fibers are cut we can become operational in minutes as opposed to days it would take to splice and repair damaged cables.

**Savings**



**Efficiency**

**Relationship**

**Citizen**

**Expectation**



**Risk**

**Strategic**

## Laserfiche Imaging/Document Software Expansion

Continued implementation and upgrading of the enterprise document management/imaging system has resulted in more reliable access to, sharing of and retrieval of documents for internal departments and citizens from the Internet. Electronic documents free up file cabinets and office space. For example, by converting personal property tax listing form storage and management to the imaging system, 10 file cabinets were removed and one additional office space was created.

### Value Added:

**Money Savings** – This Enterprise system has offered savings in the following areas: office space, paper, time (cost per sf)

**Green** – Many documents can be sent electronically to Laserfiche without ever being printed. This saves paper, time and electricity.

**Risk Mitigation** – document retention, records management and security are improved

**Efficiency** – time spent searching through file cabinets or asking other departments for documents is reduced



**Savings**

**Efficiency**

**Relationship**

**Citizen**

**Expectation**



**Risk**

**Strategic**

**Data security and Integrity** – the electronic files are backed up and stored off-site daily. Only people with proper security access can view or edit documents and the audit trail component tracks and records each time a document is viewed, printed, changed or emailed.

## Avamar Backup Project

Daily system backups (copies of data) are a critical function of the Technology department. As data storage requirements tripled within the last four years, the backups were taking more than 24 hours to complete. This caused the backups to be less reliable and slowed data access during critical 8-5 working hours. With the new system, the backup time was reduced by more than 33% and completed during non peak usage hours of 8:00 am and 5:00 pm. The County's data is more secure and accurate because of the investment in this technology.

### Value Added:

- **Risk Mitigation** - backup to disk vs tape is much more reliable. Tapes will degrade over time and Become unusable.
- **Efficiency** – backups and restore processes are require much less time and are more reliable.
- **Data security and Integrity** – the ability to recover data due to hardware or software failure is required and expected.
- **Removal of Constraints** – We were able to reduce the backup times to run after hours and complete a full backup each night.

**Savings**  
 **Efficiency**  
**Relationship**  
**Citizen**  
 **Expectation**  
 **Risk**  
**Strategic**

## Web Site Redesign and Social Media

In coordination with the Public Information Officer, the current Catawba County web site is constantly evaluated and upgraded to offer new services to the public. The Technology Department works with each department to review the services that each department offers and how to best present those services to the public. The changes are incorporating many of the Web 2.0 design concepts. Along with this redesign, Catawba County is taking advantage of Web 2.0 services including [Facebook](#), YouTube and [Twitter](#). Due to the dynamic nature of the web site, work will continue indefinitely on this project. While the web site has been redesigned, it is very dynamic and will constantly be updated and redesigned. Recent additions include RSS feeds for job posting and podcasting of weekly news reports and public information announcements.

### Date range: 07/01/2009 - 06/30/2010

• Number of Website Hits(Average per month)	11,610.75
• Number of Twitter subscribers	329
• Number of Facebook followers	1,874
• Number of RSS Feed subscribers	1,641



## Other Featured Website Applications:

**Who's in Jail** – <http://inail.catawbacountync.gov/WhosInJail/> - Lists all current inmates with relevant information. Greatly enhances efficiency for Clerk of Court, warrant management and magistrate's office.

**Catawba County E911 Active Calls** – this internal application displays all active calls with pertinent information so that Law enforcement, emergency management staff and other officials have information immediately.

**Pet Adoption** - <http://esweb.catawbacountync.gov/AdoptAnimal/> - Allows citizens to view photos and other information about pets at the animal shelter that are available for adoption.

**Lost and Found** –Pets <http://esweb.catawbacountync.gov/ASLF/Default.aspx> - Allows citizens to post information about lost or found animals. As of November 2010 there have been **1,678 postings** of lost or found pets on the site.

**E-News Letters** - [http://www.catawbacountync.gov/blog\\_list.asp](http://www.catawbacountync.gov/blog_list.asp) - various agencies publish periodic newsletters that provide relevant topical information. As of November 2010, we have **2,360 subscribers** to the publications.

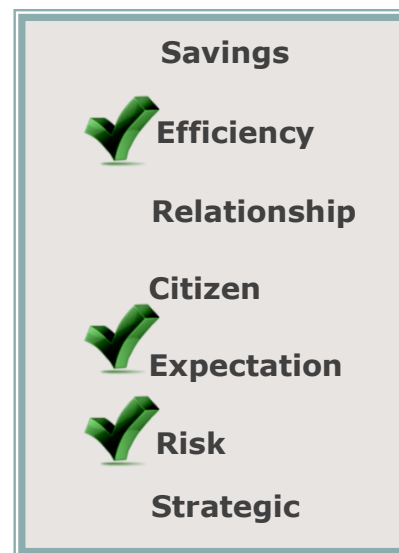
### Value Added:

- **Efficiency** – the ability to have forms, applications, and information related to County services at the click of a mouse improves efficiency for visitors and staff (travel, postage, time)
- **Public Relation Value** – with over 11,500 visits per month, it is evident that the public relies on our web sites for a variety of purposes
- **Removal of Constraints** – business hours, transportation and County staff availability are no longer a limitation for many inquiries and services provided.
- **Useful Information** – regulatory, safety and interesting information
- **Green** – the amount of printed information and postage is reduced by providing information electronically.
- **Business Outcomes**
- **Money Savings to citizens** – being able to conduct business and gather information online, saves many trips to various agencies.

- **Expectation** – citizens and visitors rely on the Internet to provide information about various services, regulations, properties, health and safety information.

## Archival System

The email archival system, Email Extender, has been a great benefit to the county. In the past we would only be able to pull emails from a point in time. Now, every email that is sent or received is archived by the Email Extender. This has enabled us to fulfill requests to view emails from citizens. It has also helped us to be able to retrieve emails in personnel and legal matters. Another benefit of the email archive has been the ability to recover emails that have been mistakenly deleted from an individual user's account. In the past, the email recovery process would have taken at least three hours and it would not have included all received and sent emails. This process has now been reduced to fifteen minutes and now include all of the emails. Because of the email archival system, the county now has all emails that are sent and received and the data is also more accessible.



### Value Added:

- **Risk Mitigation** – complete record of email to restore from in much less time.
- **Efficiency** - by having a complete record email they are much easier to recover.
- **Data security and Integrity** – the ability to recover data due to hardware or software failure is required and expected.

## Voice over IP (VoIP):

The Voice over Internet Protocol (VoIP) study showed that a new VoIP system would be less expensive and provide better phone service for County departments. In November 2006 the Board of County Commissioners approved the VoIP Project. In December 2006, they approved special funding arrangements for the project negotiated by the Finance Department. Installation of the system began in January 2007. The new VoIP system was installed by August 2007 with the installation of over 1,000 phones. This moved the County to one phone system that integrates with desktop software to provide for unified messaging. The system has a five year payback and at that point the County will pay only for upgrades and maintenance providing significant savings.



**Value Added:**

- **Money Savings** – the system will pay for itself over five years.
- **Efficiency** – removed the need to maintain wiring plant for the analog phones. We standardized on one management console.
- **Removal of Constraints** – Have the ability to quickly move a phone from one location to another.
- **Network Integrity** – The new infrastructure gave us the ability to limit wired and wireless threats
- **Expectation** – secured wireless network